<u>REMARKS</u>

The Final Office Action dated January 5, 2007 ("Final Office Action") has been received and noted. In response thereto, and pursuant to 37 CFR § 1.114, Applicants submit the following amendment and remarks in addition to the fee set forth in 37 CFR § 1.17(e). Claims 42-57 were examined. Claims 42-57 were rejected. Claim 57 is cancelled. Claims 42, 44, 45, 49 and 54 are amended. Support for the amendments in claims 42 and 44 can be found in, for example, page 7, line 22-27 through page 9, lines 1-7 and Figures 4A and 4B of the Application. The amendments in claims 45, 49 and 54 are to correct minor grammatical and formatting errors. As such, no new matter has been added. Reconsideration of the pending claims is requested in view of the above-amendments and following remarks.

I.   In the Drawings

The drawings were objected to under 37 CFR 1.83(a) because, according to the Examiner, the drawings do not show every feature of the invention specified in the claims. Specifically, the Examiner states that elements recited in claims 48, 54 and 57 are not shown in the drawings. Applicants respond as follows:

Claim 48 recites "invoking a function contained in a third firmware module during a dispatch of the earlier firmware module or the later firmware module, wherein the third firmware module is dispatched before the function contained in the third firmware module is invoked." (App., claim 48) Representatively, Figure 10 illustrates three firmware modules 212A, 212B and 212C. (App., p.16, lns. 5-6; FIG. 10) According to the Application, a function, e.g., a "daisy chaining operation," is invoked in firmware module 212C during the execution/dispatch of firmware modules 212A or 212B. (*see* App., p.16, lns. 23-27, p.17, lns. 16-27; FIG. 10) Firmware module 212C must be executed/dispatched before its function, e.g., a "daisy chaining operation," is invoked. (*see* App., p.17, lns. 16-26)

Claim 54 recites in pertinent part: "wherein [i] two of the plurality of firmware modules are to initialize hardware components to perform the function, and [ii] one of the two firmware modules is to initialize a hardware component that is not present in the system, and [iii] two of the plurality of firmware modules are to be dispatched before the volatile memory is initialized."

(App., claim 54) Representatively, the Application describes an initialization process in which, in one part, "each [firmware] module . . . examines [a] platform to determine if the hardware it initializes is present for the platform in which BIOS 120 is installed." (App., p.7, lns. 25-26) One of ordinary skill in the art would appreciate that hardware inherently performs a function. Moreover, the limitation that "one of the two firmware modules is to initialize a hardware component that is not present in the system" is supported by original claim 40 of the Application, which states in pertinent part, "[t]he system of claim 39, wherein the first module to call a second module of the set of modules when the first hardware component is not present in the system." (App., claim 40, now cancelled) Additionally, the limitation that "two of the plurality of firmware modules are to be dispatched before the volatile memory is initialized" is supported by at least Figure 4A and accompanying text of the Application. (App., p.7, lns. 4-27 through p.8, lns. 1-9)

Claim 57 has been cancelled.

In view of the above remarks, Applicants respectfully request the withdrawal of the objections to the drawings.

II.   Claim Objection

Claim 54 was objected to due to informalities. In response thereto, Applicants respond as follows: Line 5 of claim 54 includes the limitation of "a plurality of firmware modules"; line 6 of claim 54 includes the limitation of "two of **the** plurality of firmware modules"; and, line 8 of claim 54 includes the limitation of "one of **the two** plurality of firmware modules." (App., claim 54) Therefore, line 10 of claim 54 including the limitation of "two of **the** plurality of firmware," as in line 6 of claim 54, has antecedent basis and is therefore not indefinite. Accordingly, Applicants respectfully request withdrawal of the objection to claim 54.

III. Claims Rejected Under 35 U.S.C. § 112, first and second paragraphs

A. Claim Rejected under 35 U.S.C. § 112, first paragraph

Claim 48 was rejected under 35 U.S.C. § 112, first paragraph, as, according to the Examiner, failing to comply with the written description requirement. In response thereto, Applicants submit that claim 48 is supported in the Specification as discussed in detail in section I of this Response. Accordingly, Applicants respectfully request the withdrawal of the rejection of claim 48 under 25 U.S.C. § 112, first paragraph.

B. Claim Rejected under 35 U.S.C. § 112, second paragraph

Claim 57 was rejected under 35 U.S.C. § 112, second paragraph, as, according to the Examiner, being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Claim 57 is cancelled without prejudice. Accordingly, this rejection is moot.

IV. Claims Rejected Under 35 U.S.C §102(e)

Claims 42 and 48 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,633,976 issued to Stevens ("*Stevens*"). A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. MPEP § 2131. Applicants respectfully submit that each and every element, either expressly or inherently, in amended independent claim 42 and its respective dependent claims is not set forth in the cited references.

Amended independent claim 42 recites:
> initializing a plurality of firmware modules, wherein the initializing comprises:
> examining at least two firmware modules to determine a required order of dispatch of the firmware modules;
> dispatching an earlier of the two firmware modules and then dispatching a later of the two firmware modules; and
> *after initializing a plurality of firmware modules, initializing a system memory.*

(App., claim 42) Thus, claim 42 recites a method comprising several operations, all of which are to occur *before* a final operation of initializing a system memory. Representatively, the

Specification describes a computer system which performs various self-test and initiation operations when it starts up *before* the system memory (e.g. DRAM) is initialized and made available for use. (App., p.7, lns. 17-27 to p.8, lns. 1-9) The method of claim 42 is even supported in the Title of the Application, which states in pertinent part, "Method and System for Linking Firmware Modules in a **Pre-Memory Execution Environment**." (App., Title)

By contrast, *Stevens* discloses a system in which, after computer 10a is turned on, the initialization code 16 is run to initialize the CPU 11 and the system memory 13. (col. 5, lns. 37-39) Thereafter, the dispatch manager 17 *is then* loaded into the system memory 13. (col. 5, lns. 39-40) At this point, the dispatch manager 17 executes the list of tasks contained therein to cause all required BIOS modules to be loaded into the system memory 13. (col. 5, lns. 40-42) Thus, according to *Stevens*, the system dispatches its BIOS modules into the system memory only *after* the system memory is initialized. (col. 5, lns. 27-43) Thus, *Stevens* fails to disclose each and every element of independent claim 42, namely, "after initializing a plurality of firmware modules, initializing a system memory." (App., claim 42)

Moreover, the Examiner's assertion that the "two firmware modules" in claim 42 is anticipated by a module to initialize a CPU and a module to initialize memory lacks concrete support. (*see* Final Office Action, p.4) In *Stevens*, a minimal initialization code that initializes both the CPU and the memory is executed (or dispatched) *before* the plurality of BIOS modules are dispatched. (col. 3, lns. 1-15) By contrast, "initializing a system memory" *after* initializing the plurality of firmware, wherein initializing the plurality of firmware includes dispatching the firmware, as recited in claim 42, clearly shows that the system memory is initialized *after* the plurality of firmware is dispatched (or executed). Consequently, *Stevens* fails to disclose each and every element of independent claim 42. Dependent claim 48 depends on independent claim 42 and therefore includes all of its limitations. Accordingly, Applicants respectfully submit that claims 42 and 48 are allowable over the cited references.

V. Claims Rejected Under 35 U.S.C. § 103(a)

A. Claims 43-44 Rejected as Obvious over *Stevens* in view of *Patel*

Claims 43 and 44 were rejected under 35 U.S.C. §103(a) as being obvious over *Stevens* in view of U. S. Patent No. 5,999,989 issued to Patel ("*Patel*"). In order to establish a *prima facie* case of obviousness: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference; (2) there must be a reasonable expectation of success; and (3) the references when combined must teach or suggest all of the claim limitations. MPEP § 2142. Applicants respectfully submit that a *prima facie* case of obviousness has not been established.

More specifically, the cited references do not teach or suggest all of the limitations of independent claim 42. As stated previously, independent claim 42 includes the limitation of "after initializing a plurality of firmware modules, initializing a system memory." (App., claim 42) The significance of this limitation is discussed previously in section IV of this Response. *Stevens* does not teach or suggest this limitation as discussed previously in section IV of this Response. *Patel* does not cure this lack of teaching or suggestion because *Patel* is directed to the enhancement of the robustness of the Plug-and-Play BIOS and reduction in the amount of ROM work required to support different products. (col. 1, lns. 51-56) The Examiner has not relied upon and Applicants have been unable to discern any part of *Patel* that teaches or suggests "after initializing a plurality of firmware modules, initializing a system memory," as recited in claim 42. Dependent claims 43 and 44 depend on independent claim 42 and therefore include all of the limitations thereof. Thus, even assuming *arguendo* that the references may be properly combined, the references do not teach or suggest all of the claim limitations of dependent claims 43 and 44. Accordingly, Applicants respectfully submit that claims 43 and 44 are allowable over the cited references.

B. Claims 45-47 Rejected as Obvious over *Stevens* in view of *Ayers*

Claims 45-47 were rejected under 35 U.S.C. § 103(a) as being obvious over *Stevens* in view of U. S. Patent 6,353,924 issued to Ayers et al. ("*Ayers*"). Applicants submit that the cited references do not teach or suggest all of the limitations of independent claim 42.

As stated previously, independent claim 42 includes the limitation of "after initializing a plurality of firmware modules, initializing a system memory." (App., claim 42) The significance of this limitation is discussed previously in section IV of this Response. *Stevens* does not teach or suggest this limitation as discussed previously in section IV of this Response. *Ayers* does not cure this lack of teaching or suggestion because *Ayers* is directed to a method for producing a specific sequence of instructions that were executed prior to an instruction that crashed or faulted. (col. 2, lns. 21-35) The Examiner has not relied upon and Applicants have been unable to discern any part of *Ayers* that teaches or suggests "after initializing a plurality of firmware modules, initializing a system memory," as recited in claim 42. Dependent claims 45-47 depend on independent claim 42 and therefore include all of the limitations thereof. Thus, even assuming *arguendo* that the references may be properly combined, the references do not teach or suggest all of the claim limitations of dependent claims 45-47. Accordingly, Applicants respectfully submit that claims 45-47 are allowable over the cited references.

C.   Claim 49 Rejected as Obvious over *Stevens* in view of *Katayama*

Claim 49 was rejected under 35 U.S.C. § 103(a) as being obvious over *Stevens* in view of U. S. Publication 2001/0007119 to Katayama, et al ("*Katayama*"). Applicants submit that the cited references do not teach or suggest all of the limitations of independent claim 42.

As stated previously, independent claim 42 includes the limitation of "after initializing a plurality of firmware modules, initializing a system memory." (App., claim 1) The significance of this limitation is discussed previously in section IV of this Response. *Stevens* does not teach or suggest this limitation as discussed previously in section IV of this Response. *Katayama* does not cure this lack of teaching or suggestion because *Katayama* is directed to a file memory device suitable for the speed-up file access and to a information processing apparatus using it. (¶ [0003]) The Examiner has not relied upon and Applicants have been unable to discern any part of *Katayama* that teaches or suggests "after initializing a plurality of firmware modules, initializing a system memory," as recited in claim 42. Dependent claim 49 depends on independent claim 42 and therefore includes all of the limitations thereof. Thus, even assuming *arguendo* that the references may be properly combined, the references do not teach or suggest all of the claim

limitations of dependent claim 49. Accordingly, Applicants respectfully submit that claim 49 is allowable over the cited references.

D.   Claims 50, 51 and 53 Rejected as Obvious over *Patel*

Claims 50, 51 and 53 were rejected under 35 U.S.C. § 103(a) as being obvious over *Patel*. Applicants submit that that the cited reference does not teach or suggest all of the limitations of independent claim 50. More specifically, independent claim 50 includes the limitation of *"initializing a volatile system memory after dispatching the plurality of firmware modules."* (App., claim 50) Thus, claim 50 recites a computer-readable medium with instructions comprising several operations, all of which are to occur **before** a final operation of initializing a system memory. Representatively, the Specification describes a computer system which performs various self-test and initiation operations when it starts up *before* the system memory (e.g. DRAM) is initialized and made available for use. (App., p.7, lns. 17-27 to p.8, lns. 1-9) The limitation of claim 50, as discussed, is even supported in the Title of the Application, which states in pertinent part, "Method and System for Linking Firmware Modules in a *Pre-Memory Execution Environment*." (App., Title)

By contrast, *Patel* teaches a system to enhance the robustness of the Plug-and-Play BIOS and reduces the amount of ROM required to support different devices in a computer. (*Patel*, Abstract) The Examiner has not relied upon and Applicants have been unable to discern any part of *Patel* that teaches or suggests *"initializing a volatile system memory after dispatching the plurality of firmware modules,"* as recited in claim 50. Thus, *Patel* does not teach or suggest every limitation of independent claim 50.

Moreover, there is no motivation to modify *Patel* to arrive at independent claim 50. The mere fact that a reference can be modified does not render the resultant modification obvious unless the prior art also suggests the desirability of the modification. MPEP § 2143.01(III). The Examiner admits that *Patel* does not explicitly teach "initializing a volatile system memory after dispatching the plurality of firmware modules," as recited in claim 50. (Final Office Action, p.8). To cover the deficiency of *Patel*, the Examiner states that it would have been obvious to one of ordinary skill in the art to have the volatile system memory initialized after dispatching the

plurality of firmware modules. (*Id.*) According to the Examiner, the motivation is to conserve memory resources. (Final Office Action, p.9) This statement, however, is unsupported by the cited prior art, and is even contradicted by, for example, *Stevens*. Representatively, the system memory in *Stevens* is initialized *before* the memory modules are dispatched. (*Stevens*, col. 3, lns. 27-43) Thus, Applicants submit that there is no motivation to modify *Patel* to arrive at claim 50 because the prior art, as evidenced by *Stevens*, does not suggest its desirability. Consequently, the Examiner's stated motivation is unsupported.

Dependent claims 51 and 53 depend from independent claim 50 and therefore incorporate all of the limitations thereof. Accordingly, Applicants respectfully submit that independent claim 50 and its respective dependent claims are allowable over the cited reference.

E.   Claim 52 Rejected as Obvious over *Patel* in view of *Ayers*

Claim 52 was rejected under 35 U.S.C. § 103(a) as being obvious over *Patel* in view of *Ayers*. Applicants submit that that the cited references do not teach or suggest all of the limitations of independent claim 50.

As stated previously, independent claim 50 includes the limitation of "*initializing a volatile system memory after dispatching the plurality of firmware modules.*" (App., claim 1) The significance of this limitation is discussed previously in section V(D) of this Response. *Patel* does not teach or suggest this limitation as discussed previously in section V(D) of this Response. *Ayers* does not cure this lack of teaching or suggestion because *Ayers* is directed to a method for producing a specific sequence of instructions that were executed prior to an instruction that crashed or faulted. (col. 2, lns. 21-35) The Examiner has not relied upon and Applicants have been unable to discern any part of *Ayers* that teaches or suggests "*initializing a volatile system memory after dispatching the plurality of firmware modules,*" as recited in claim 50. Dependent claim 52 depends from independent claim 50 and therefore includes all of the limitations thereof. Thus, even assuming *arguendo* that the references may be properly combined, the references do not teach or suggest all of the claim limitations of dependent claim 52. Accordingly, Applicants respectfully submit that claim 52 is allowable over the cited references.

F.   Claims 54-56 Rejected as Obvious over *Stevens* in view of *Patel*

Claims 54-56 were rejected under 35 U.S.C. § 103(a) as being obvious over *Stevens* in view of *Patel*. Applicants submit that that the cited references do not teach or suggest all of the limitations of independent claim 54. Amended independent claim 54 includes the limitation of "wherein . . . two of *the firmware modules are to be dispatched before the volatile memory is initialized.*" (App., claim 54) Thus, claim 54 recites a system including a plurality of firmware modules, at least two of which are dispatched *before* a final operation of initializing a system memory. Representatively, the Specification describes a computer system which performs various self-test and initiation operations when it starts up *before* the system memory (e.g. DRAM) is initialized and made available for use. (App., p.7, lns. 17-27 to p.8, lns. 1-9) The limitation of claim 54, as discussed, is even supported in the Title of the Application, which states in pertinent part, "Method and System for Linking Firmware Modules in a *Pre-Memory Execution Environment.*" (App., Title) By contrast, neither *Stevens* nor *Patel* include such a limitation as discussed in detail in sections VI and V(A) of this Response.

Dependent claims 55 and 56 depend from independent claim 54 and therefore include all of the limitations thereof. Thus, even assuming *arguendo* that the references may be properly combined, the references do not teach or suggest all of the claim limitations of claims 54-56. Accordingly, Applicants respectfully submit that independent claim 54 and its respective dependent claims are allowable over the cited references.

G.   Claim 57 Rejected as Obvious over *Stevens* and *Patel* in view of *Hudson*

Claim 57 was rejected under 35 U.S.C. § 103(a) as being obvious over *Stevens* and *Patel* and further in view of U. S. Patent 6,173,350 issued to Hudson et al. ("*Hudson*"). Claim 57 is cancelled without prejudice. Accordingly, this rejection is moot.
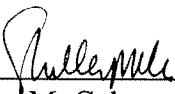
CONCLUSION

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record and are in condition for allowance and such action is earnestly solicited at the earliest possible date. If the Examiner believes that a telephone conference would be useful in moving the application forward to allowance, the Examiner is encouraged to contact the undersigned at (310) 500-4787.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN, LLP

Dated:___March 26, 2007___

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CERTIFICATE OF TRANSMISSION
I hereby certify that this correspondence is being submitted electronically via EFS Web to the United States Patent and Trademark Office on <u>March 26, 2007</u>.

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